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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

10/787,427

02/26/2004

David Skrbina

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07/22/2004

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ANN ARBOR, MI 48104

EXAMINER

RAYMOND, EDWARD

ART UNIT

PAPER NUMBER

2857

DATE MAILED: 07/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                               |                                |           |
|------------------------------|-------------------------------|--------------------------------|-----------|
| <b>Office Action Summary</b> | Application No.<br>10/787,427 | Applicant(s)<br>SKRBINA ET AL. |           |
|                              | Examiner<br>Edward Raymond    | Art Unit<br>2857               | <i>AR</i> |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 February 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☒ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                                               |                                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                                                   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                                          | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>20040226</u> . | 6) <input type="checkbox"/> Other: _____                                                |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claim 1** is rejected under 35 U.S.C. 102(e) as being anticipated by Patchell.

Patchell teaches a vehicle sensor fusion architecture including a plurality of paired input sensors for sensing vehicle environment (Claim 1: see col. 5, lines 3-10), each pair including one sensor from a first band of the electromagnetic spectrum and a second sensor from a second band of the electromagnetic spectrum and each sensor providing an electrical sensor output indicative of the vehicle environment (Claim 1: see col. 5, lines 21-37); a time tagging module for tagging each electrical sensor output with the time the sensor information was gathered (Claim 1: see Figure 6: The Examiner notes that time is recorded based on the signals from the sensors); and a central fusion module coupled to receive said sensor outputs from a paired input sensor and having a logic capability to process the paired input sensor output to generate a fusion output for providing information characterizing the vehicle environment (Claim 1: see col. 5, lines 41-48).

Patchell teaches a vehicle sensor fusion architecture wherein said central fusion module comprises logic means for combining a plurality of paired sensor inputs from a

plurality of signals generated by said paired input sensors (Claim 3: see Figure 1: Sensors S1-S4 and also col. 5, lines 41-48).

Patchell teaches a vehicle sensor fusion architecture further comprising a time tagging module so that information data can be extrapolated and interpolated to the same point in time for a fusion action combining information to take place (Claim 4: see Figure 1: Controller 22 and Times T1 and T2 and also Figure 6).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. **Claim 2** is rejected under 35 U.S.C. 103(a) as being unpatentable over Patchell in view of Lemelson et al. Patchell teaches all of the features of the claimed invention, except a method wherein input sensors comprise a visual camera and a radar sensor.

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Lemelson et al. teach a method using a camera and radar (Claim 2: see Figure 3: TV Camera 54 and RADAR/LIDAR 56). It would have been obvious to the person having ordinary skill in the art at the time the invention was made to modify Patchell to use a visual camera and radar, as taught by Lemelson et al., because this would provide two diverse sensor data streams to accurately determine when an object is within a sensed field.

#### ***Allowable Subject Matter***

6. **Claim 5** is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yanai teaches vehicle surrounding circumstance discriminating system, vehicle surrounding monitoring system and vehicle obstacle warning system and related methods. Breed teaches an accident avoidance system. Narayan et al. teach a collision avoidance system utilizing machine vision taillight tracking.

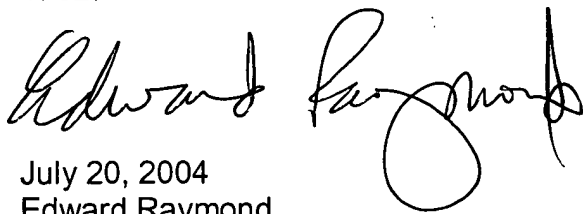
#### ***Contact Information***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edward Raymond whose telephone number is 571-272-2221. The examiner can normally be reached on Monday through alternating Friday between 8:00 AM and 5:30 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc Hoff can be reached on 571-272-2216. The fax phone numbers for the organization where this application or proceeding is assigned are 571-273-2221 for regular communications and 571-272-1562 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1782.

A handwritten signature in black ink, appearing to read "Edward Raymond", with a large, stylized loop at the end.

July 20, 2004  
Edward Raymond  
Patent Examiner  
Art Unit 2857